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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,139	12/04/2003	Johji Nakamoto	JP9-1999-0277-US2	6730

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EXAMINER

ZHENG, LOIS L

ART UNIT PAPER NUMBER

1742

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/728,139

Applicant(s)

NAKAMOTO ET AL.

Examiner

Lois Zheng

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 23-34 is/are pending in the application.
- 4a) Of the above claim(s) 29-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/681,712.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/4/03</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Status of Claims***

1. Claims 1-22 are canceled in view of the preliminary amendment filed 4 December 2003. Therefore, claims 23-34 are currently under examination.

### ***Election/Restrictions***

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 23-28, drawn to an apparatus, classified in class 204, subclass 242.
  - II. Claims 29-34, drawn to a method, classified in class 205, subclass 125.
3. Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process such as an electroetching process.
4. Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
5. During a telephone conversation with Anthony Canale on 20 June 2006 a provisional election was made without traverse to prosecute the invention of Group I, claims 23-28. Affirmation of this election must be made by applicant in replying to this

Office action. Claims 29-34 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Specification***

6. The substitute specification filed 4 December 2003 has been entered.

The examiner suggest to change paragraph [0001] to the following:

This application is a divisional of Serial No. 09/681,712; filed on May 24, 2001, now US Patent No. 6,827,827.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 23-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Simpson et al. US 6,174,425 B1(Siimpson).

Simpson teaches an electroplating apparatus comprising a plating tank, a source material electrically connected to a first terminal of power supply, an object electrically connected to a second terminal of the power supply and an insulating adjustment plate disposed between the source material and the object, wherein the insulating adjustment plate comprises a plurality of windows(Fig. 3 numerals 31, 34, 20 and 33). Simpson further teaches that insulating adjustment plate creates more laminar flow of the plating

solution(col. 2 lines 59-60) and the insulating adjustment plate is made of non-conductive material such as polyethylene(col. 2 line 64 – col. 3 line 3). The insulating adjustment plate as taught by Simpson is in the vicinity of the object to be plated and is not in contact with the object.

Therefore, Simpson anticipates the instant claims 23-28.

9. Claims 23-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Hanson et al. US 6,254,742 B1(Hanson).

Hanson teaches an electroplating apparatus comprising a plating tank, a source material electrically connected to a first terminal of power supply, an object electrically connected to a second terminal of the power supply and an insulating adjustment plate disposed between the source material and the object(i.e. wafer), wherein the insulating adjustment plate comprises a plurality of windows(Fig. 4 numerals 120 & 114, Figs. 6 and 8). In addition, Hanson teaches that the windows of the insulating adjustment plate enhances plating fluid flow and current distribution to the surface of the object to be plated which results in more uniform current density distribution(col. 7 lines 15-16 and 34-38). Hanson also teaches that the insulating adjustment plate is made of dielectric materials such as polypropylene and polyvinylidene fluoride(col. 7 lines 1-3). The insulating adjustment plate as taught by Hanson is in the vicinity of the object to be plated and is not in contact with the object.

Therefore, Hanson anticipates the instant claims 23-28.

10. Claims 23-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Uzoh et al. US 6,261,426 B1(Uzoh).

Uzoh teaches an electroplating apparatus comprising a plating tank, a source material electrically connected to a first terminal of power supply, an object electrically connected to a second terminal of the power supply and an insulating adjustment plate disposed between the source material and the object(i.e. wafer), wherein the insulating adjustment plate comprises a plurality of windows(Fig. 1 numerals 14, 4, 12, 8 and 28). In addition, Uzoh teaches that the windows of the insulating adjustment plate controls the electrolyte flow to areas of the object to be plated in order to achieve uniform plating(col. 2 lines 5-18 and 57-67, col. 3 lines 54-57). Uzoh also teaches that the insulating adjustment plate is made of non-conductive materials such as polyvinylidene fluoride(i.e. PVDF)(col. 3 lines 44-46). The insulating adjustment plate as taught by Uzoh is in the vicinity of the object to be plated and is not in contact with the object.

Therefore, Uzoh anticipates the instant claims 23-28.

### ***Double Patenting***

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 23-28 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, 7 and 19-21 of U.S. Patent No. 6,827,827 B2(US'827). Although the conflicting claims are not identical, they are not patentably distinct from each other because US'827 teaches a metal plating apparatus that is substantially structurally the same as the instant invention.

### ***Conclusion***

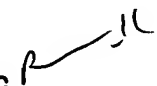
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lois Zheng whose telephone number is (571) 272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LLZ

ROY KING   
SUPERVISORY PATENT EXAMINER  
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